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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/505,735	02/16/2000	Alessandro Muti	MFCP.68276	6053

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EXAMINER

AVELLINO, JOSEPH E

ART UNIT	PAPER NUMBER
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2143

DATE MAILED: 04/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/505,735

Applicant(s)

MUTI ET AL.

Examiner

Joseph E. Avellino

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/14/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-30 are presented for examination.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-9, 14-27, and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakavy et al. (USPN 5,913,040) (hereinafter Rakavy) in view of Chiu et al. (WO 00/01123) (cited by Applicant in IDS) (hereinafter Chiu)

2. Referring to claim 1, Rakavy discloses a method of transferring a set of data over a network comprising:

monitoring the level of actual network bandwidth utilization (col. 14, lines 8-9);
calculating a threshold level of utilization as a function of the current monitored level of utilization (col. 13, line 66 to col. 14, line 7); and

if the actual level is less than the threshold level, receiving at least a portion of the set of data over the network (col. 14, lines 16-21).

Rakavy does not disclose identifying a maximum monitored level of actual utilization and that the threshold level of utilization is calculated as a function of the maximum monitored level of utilization. Chiu discloses another method of transferring data over a network comprising the steps of:

identifying a maximum monitored level of actual utilization (i.e. previously measured high rate of transmission) (p. 5, lines 13-15); and

calculating a threshold level of utilization (i.e. rate of transmission) as a function of the maximum monitored level of utilization (disclosed is that the increase to the rate of transmission is based upon the historically highest rate) (p. 5, line 25).

It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Rakavy with Chiu in order to avoid problem of driving transmission rate thresholds too low based upon unacceptably low values as supported by Chiu (p. 5, lines 15-16).

3. Referring to claim 2, Rakavy discloses the client receives the data over the network from a server (col. 5, lines 32-39).

4. Referring to claim 3, Rakavy discloses said monitoring occurs at the interface between the client and the network (col. 14, lines 8-15).

5. Referring to claim 4, Rakavy discloses the network is the Internet (col. 5, lines 8-9).

6. Referring to claim 5, Rakavy discloses the threshold level is equal to a predetermined percentage of the maximum monitored level (col. 13, lines 35-44).

7. Referring to claim 6, Rakavy discloses the set of data includes a software update (col. 3, lines 60-62; col. 15, lines 22-27).

8. Referring to claim 7, Rakavy discloses repeating at least said monitoring step each time a portion of the set of data is received (Figure 6, reference character 43 and related parts of the disclosure).

9. Referring to claim 8, Rakavy discloses separately receiving a plurality of discrete portions of the set of data over the network when the actual level is less than the threshold level (col. 14, lines 32-60).

10. Referring to claim 9, Rakavy discloses a method of transferring a set of data over a network as stated in the claims above. Rakavy does not disclose incrementing a counter each time a discrete portion of the data is received over the network. "Official Notice" is taken that both the concept and advantages of providing for incrementing a counter each time a portion of data is received is well known and expected in the art. It would have been obvious to one of ordinary skill in the art to provide incrementing a counter each time a portion of data is received to the combined system of Rakavy and Riggan to keep an accurate track of the number of packets received for this data set.

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11. Referring to claim 14, Rakavy discloses suspending the receipt of discrete portions of the data if the level of actual utilization becomes greater than the threshold level (col. 14, lines 16-21).

12. Referring to claim 15, Rakavy discloses resuming the receipt of discrete portions of the data from the point of suspension when the level of actual utilization becomes less than the threshold level (col. 13, lines 23-34).

13. Referring to claim 16, Rakavy discloses a method of transferring a set of data over a network as stated in the claims above. Rakavy further discloses repeating said monitoring step each time a portion of the set of data is received (Figure 6, reference character 43 and related parts of the disclosure). Rakavy does not disclose identifying a maximum level of utilization during receipt of the set of data and calculating a threshold level of utilization for the set of data as a function of the maximum level of utilization identified during receipt of the set of data. Chiu discloses:

identifying a maximum level of actual utilization during receipt of the set of data (i.e. determine increase of rate based upon the current rate of ACK messages received in a window) (p. 5, lines 1-7); and

calculating a threshold level of utilization for the set of data as a function of the maximum level of utilization identified during receipt of the set of data (i.e. transmission rate is reduced with respect to the historically highest rate) (p. 5, lines 1-7).

It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Rakavy with Chiu in order to avoid problem of driving transmission rate thresholds too low based upon unacceptably low values as supported by Chiu (p. 5, lines 15-16).

14. Referring to claim 17, Rakavy discloses a method of transferring a set of data over a network as stated in the claims above. Rakavy does not disclose estimating the maximum level of utilization during receipt of the set of data by calculating an average level of utilization for the set of data upon repeating said monitoring step a predetermined number of times during receipt of the set of data. Chiu discloses estimating the maximum level of utilization during receipt of the set of data by calculating an average level of utilization for the set of data upon repeating said monitoring step a predetermined number of times during receipt of the set of data (i.e. determine increase per window) (p. 5, lines 1-20). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Rakavy with Chiu in order to avoid problem of driving transmission rate thresholds too low based upon unacceptably low values as supported by Chiu (p. 5, lines 15-16).

15. Referring to claim 18, Rakavy discloses receiving at least a portion of the set of data over the network if the actual level is less than the threshold level for the set of data (Figure 6).

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16. Referring to claim 19, Rakavy discloses receiving at least a portion of a second set of data over the network if the actual level is less than the threshold level for the set of data (col. 14, lines 32-60).

17. Referring to claim 20, it is inherent that the combined system of Rakavy and Riggan has a computer-readable medium having computer executable instructions because it instructs the computer in the steps to complete the method.

18. Referring to claim 21, Rakavy discloses a computer system having a memory, an operating system and a central processor being able to execute the instructions stored on the computer-readable medium (col. 4, lines 46-67).

19. Referring to claims 29 and 30, Rakavy discloses the client machine receives the data over the network without substantially interfering with any other network activity (Rakavy discloses downloading the advertisements in a background mode over a communications link, which, as it is well known in the art, is designed to substantially reduce interference with other network activities that is user-oriented) (e.g. abstract).

20. Claims 22-27 are rejected for similar reasons as stated above.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakavy in view of Chiu as applied to claims 1 and 7-9 above, and further in view of Watanabe et al. (USPN 6,285,662) (hereinafter Watanabe).

21. Referring to claim 10, Rakavy in view of Chiu disclose a method of transferring a set of data over a network as stated in the claims above. Rakavy in view of Chiu do not disclose the size of the discrete portions of the data is a function of the value of the counter. Watanabe discloses the size of the discrete portions of the data (contention window) is a function of the value of the counter (retransmission attempts) (col. 4, lines 59-63). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Watanabe with the system of Rakavy and Chiu for improved throughput rates and power consumption performance of the sending station as disclosed in Watanabe (col. 1, lines 19-21).

22. Referring to claim 11, Rakavy in view of Chiu disclose a method of transferring a set of data over a network as stated in the claims above. Rakavy in view of Chiu do not disclose increasing the size of the discrete portions of the data when the value of the counter is greater than a predetermined value. Watanabe discloses increasing the size of the discrete portions of the data (contention window) when the value of the counter (retransmission attempts) is greater than a predetermined value (col. 5, lines 2-7). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Watanabe with the system of Rakavy and Chiu for

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improved throughput rates and power consumption performance of the sending station as disclosed in Watanabe (col. 1, lines 19-21).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rakavy in view of Chiu as applied to claims 1 and 7-9 above, and further in view of Elzur (USPN 6,427,169).

23. Rakavy in view of Chiu disclose a method of transferring a set of data over a network as stated in the claims above. Rakavy in view of Chiu do not disclose clearing the counter after receiving all of the plurality of discrete portions of the data over the network. Elzur discloses clearing the counter after receiving all of the plurality of discrete portions of the data over the network (col.9, lines 29-31). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Elzur with Rakavy and Chiu to efficiently monitor the number of packets received for the data flow while minimizing the amount of memory space used.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rakavy in view of Chiu as applied to claims 1 and 7-9 above, and further in view of Kalkunte et al. (USPN 6,078,591) (hereinafter Kalkunte).

24. Rakavy in view of Chiu disclose a method of transferring a set of data over a network as stated in the claims above. Rakavy in view of Chiu do not disclose clearing

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the counter if the level of actual utilization becomes greater than the threshold level.

Kalkunte discloses clearing the counter if the level of actual utilization becomes greater than the threshold level (col. 8, line 59 to col. 9, line 7). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Kalkunte with Rakavy and Chiu to efficiently monitor the bandwidth utilization of the system and to transfer packets of data according to the monitored bandwidth.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buch et al. (USPN 6,463,468) (hereinafter Buch) in view of Rakavy in view of Chiu.

25. Buch discloses a method of communicating between a client process and a server process over a network, the method comprising:

- a. issuing to the server process a first download request which identifies a file and which request that the server process download a first segment of the file over the network (col. 12, lines 25-30);
- b. downloading, by the server process, the first segment of the file (col. 12, lines 32-34);
- c. issuing to the server process a further download request which is associated with the file and which requests that the server process download a further segment of the file over the network, provided the actual network bandwidth utilization is less than a threshold level (col. 12, lines 25-50);

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- d. downloading, by the server process, the further segment of the file (col. 12, lines 39-42; Figure 11);
- e. repeating steps (c) and (d) until the server process has downloaded each segment of the file over the network (col. 12, lines 35-50).

Buch does not disclose that the threshold level is calculated as a function of a maximum monitored level of actual network bandwidth utilization. Rakavy in view of Chiu disclose calculating a threshold level as a function of a maximum monitored level of actual network bandwidth utilization (see above rejections). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Buch with Rakavy and Chiu to streamline the system, increasing the efficiency by allowing "in-use" periods but low utilization to be harnessed to download files, resulting in increased throughput and less overhead.

Response to Amendment

26. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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28. Chiu et al. (USPN 6,526,022) discloses detecting congestion by comparing successive loss of packets in windows to provide congestion control in reliable multicast protocol.

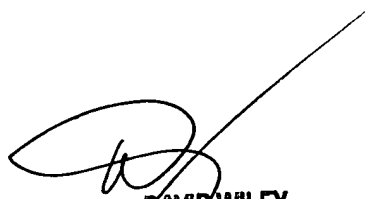
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (571) 272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



JEA
April 5, 2005



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